Amendments

In the Specification:

Please replace paragraphs [00148]-[00151] appearing at pages 50-51 with the following amended paragraphs:

[00148] Ligation: 5 µl of insert DNA was added to either 1 or 10 µl of vector and ligated in a 20 µl reaction for 2.5 h. at 16°C. In addition, either 1 or 10 µl of vector was subjected to the same reaction conditions without the addition of insert DNA. The reactions were extracted with phenol/chloroform, ethanol precipitated, and reconstituted in 10 µl. One hundred µl of library efficiency DH5α [[DH5a]] (Invitrogen, Carlsbad, CA) were transformed with each ligation according to the manufacturer's protocol and plated onto LB with kanamycin.

[00149] Two distinct colony morphologies were apparent, large and small. The results are shown in Table 15.

TABLE 15

µl insert	0		5	
µl vector	1	10	1	10
CFU/100 µl	0	5	12	95

[00150] Plasmid DNA was prepared from 8 "no insert" colonies, 12 1:5 (vector:insert ratio) colonies, and 21 10:5 colonies. Both colony morphologies were picked for DNA preparation. DNA was digested with restriction enzymes diagnostic for presence and orientation of insert. Using colony morphology as predictor, 93% (25/27) had the desired orientation. Plasmid yield from 83% (10/12) of the

undesired orientation was comparatively poor, due either to reduced copy number, lower growth rate, or both. (See Figs. 13A and 13B).

EXAMPLE 5

Improving transfection efficiency and targeting of a sequence.

[00151] In another aspect, the present invention provides materials and methods for the improvement of transfection efficiency. In some preferred embodiments, nucleic acids comprising one or more Ter sites may be contacted with a Ter-binding protein in order to improve transfection efficiency and/or expression of a sequence contained on the nucleic acid.[[.]] In some embodiments, the Ter-binding protein may be modified to comprise one or more modifications that improve cellular uptake, cellular localization, stability of the nucleic acid or combinations thereof. In some embodiments, the Ter-binding protein may be modified so as to comprise one or more ligands recognized by one or more cellular receptors. For example, a Ter binding protein may be derivatized so as to comprise one or more integrin binding ligands including, but not limited to, proteins or peptides comprising the amino acid sequence arginine glycine aspartic acid (RGD). Such protein or peptides may be part of the primary sequence of a fusion protein between such proteins or peptides and a Ter binding protein. In other embodiments, such protein or peptides may be attached to a Ter binding protein using conventional protein-protein linkers. For example, a protein or peptides comprising an RGD sequence via intrinsic amino groups may be linked using a cross linking reagent such as glutaraldehyde. In other embodiments, a protein or peptide comprising an RGD sequence may be linked to a Ter binding

protein via other reactive functional moieties such as thiol or hydroxyl moieties. Those skilled in the art will appreciate that the linking of reactive functional moieties is routine in the art of protein chemistry.